



**Billing Code 4310-55**

## **DEPARTMENT OF THE INTERIOR**

### **Fish and Wildlife Service**

**[FWS-R8-FHC-2013-N101]**

**[FF08EVEN00-FXFR1337088SSO0-134]**

### **Marine Mammal Protection Act; Stock Assessment Report**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Notice of availability of final report; response to comments.

**SUMMARY:** In accordance with the Marine Mammal Protection Act of 1972, as amended (MMPA), and its implementing regulations, we, the U.S. Fish and Wildlife Service (Service), announce that we have revised our stock assessment report (SAR) for the southern sea otter (*Enhydra lutris nereis*) stock in California State, including incorporation of public comments. We now make our final revised SAR available to the public.

**ADDRESSES:** *Document Availability:* You may obtain a copy of the SAR from our website at [http://www.fws.gov/ventura/species\\_information/so\\_sea\\_otter/index.html](http://www.fws.gov/ventura/species_information/so_sea_otter/index.html). Alternatively, you may contact the Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, 2493 Portola Road, Suite B, Ventura, CA 93003; telephone: 805-644-1766.

**FOR FURTHER INFORMATION CONTACT:** For information on the methods, data, and results of the stock assessment, contact Lilian Carswell by telephone (805-612-2793) or by email (Lilian\_Carswell@fws.gov). Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service at 800-877-8339.

## **SUPPLEMENTARY INFORMATION:**

### **Background**

Under the MMPA (16 U.S.C. 1361 et seq.) and its implementing regulations in the Code of Federal Regulations (CFR) at 50 CFR part 18, we regulate the taking, possession, transportation, purchasing, selling, offering for sale, exporting, and importing of marine mammals. One of the goals of the MMPA is to ensure that stocks of marine mammals occurring in waters under U.S. jurisdiction do not experience a level of human-caused mortality and serious injury that is likely to cause the stock to be reduced below its *optimum sustainable population* (OSP) level. OSP is defined under the MMPA as “...the number of animals which will result in the maximum productivity of the population or the species, keeping in mind the carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element” (16 U.S.C. 1362(9)).

To help accomplish the goal of maintaining marine mammal stocks at their OSPs, section 117 of the MMPA requires the Service and the National Marine Fisheries Service (NMFS) to prepare a SAR for each marine mammal stock that occurs in waters under U.S. jurisdiction.

Each SAR must include:

1. A description of the stock and its geographic range;
2. A minimum population estimate, current and maximum net productivity rate, and current population trend;
3. An estimate of annual human-caused mortality and serious injury and, for a strategic stock, other factors that may be causing a decline or impeding recovery of the stock;
4. A description of commercial fishery interactions;
5. A categorization of the status of the stock; and
6. An estimate of the *potential biological removal* (PBR) level.

The MMPA defines the PBR as “the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its [OSP]” (16 U.S.C. 1362(20)). The PBR is the product of the minimum population estimate of the stock ( $N_{\min}$ ); one-half the maximum theoretical or estimated net productivity rate of the stock at a small population size ( $R_{\max}$ ); and a recovery factor ( $F_r$ ) of between 0.1 and 1.0. This can be written as:

$$\text{PBR} = (N_{\min})(\frac{1}{2} \text{ of the } R_{\max})(F_r)$$

Section 117 of the MMPA requires the Service and NMFS to review the SARs: (a) At least annually for stocks that are specified as strategic stocks, (b) at least annually for stocks for

which significant new information is available, and (c) at least once every 3 years for all other stocks. If our review of the status of a stock indicates that it has changed or may be more accurately determined, then the SAR must be revised accordingly.

A *strategic stock* is defined in the MMPA as a marine mammal stock “(A) for which the level of direct human-caused mortality exceeds the [PBR] level; (B) which, based on the best available scientific information, is declining and is likely to be listed as a threatened species under the Endangered Species Act of 1973[, as amended] (16 U.S.C. 1531 et seq.) [the “ESA”], within the foreseeable future; or (C) which is listed as a threatened species or endangered species under the [ESA], or is designated as depleted under [the MMPA].” (16 U.S.C. 1362(19)).

The southern sea otter SAR was last revised in December, 2008. Because the southern sea otter qualifies as a strategic stock due to its listing as a threatened species under the ESA, the Service reviewed the stock assessment in December of 2009 and again in December of 2010. Both reviews concluded that the status had not changed, nor could it be more accurately determined. However, upon review in 2011, the Service determined that revision was warranted.

Before releasing our draft SAR for public review and comment, we submitted it for technical review internally and also for scientific review by the Pacific Regional Scientific Review Group, which was established under the MMPA (16 U.S.C. 1386(d)). In a May 9, 2012 (77 FR 27246), *Federal Register* notice, we made our draft SAR available for the MMPA-required 90-day public review and comment period. Following the close of the comment period, we revised the SAR based on public comments we received (see **Response to Public Comments**) and prepared the final revised SAR. Between publication of the draft and final revised SARs, we have not revised the status of the stock itself (the southern sea otter continues

to retain its status as a strategic stock). However, we have updated the SAR to include the most recent information available.

The following table summarizes the final revised SAR for southern sea otters in California, listing the stock's  $N_{\min}$ ,  $R_{\max}$ ,  $F_r$ , PBR, annual estimated human-caused mortality and serious injury, and status:

**Summary: Final Revised Stock Assessment Report for the Southern Sea Otter in California**

Stock	$N_{\min}$	$R_{\max}$	$F_r$	PBR	Annual estimated human-caused mortality and serious injury	Stock status
Southern sea otter	2,924	0.06	0.1	8	Figures by specific source, where known, are provided in the SAR	Strategic

**Response to Public Comments**

We received comments on the draft SAR (77 FR 27246) from the Marine Mammal Commission and the Center for Biological Diversity. We present substantive issues raised in those comments that are pertinent to the SAR, along with our responses, below.

*Comment 1:* While the SAR states that southern sea otter mortalities in gillnets are believed to be currently at or near zero, there is insufficient observer coverage for reliable estimates. In 2010, observations in the swordfish and thresher shark fishery were only 11.9 percent observer coverage. In the halibut and white seabass set gillnet fishery, observer coverage was at 12.5 percent. In the yellowtail, barracuda, and white seabass drift gillnet only, 4.6 percent of sets were observed. These levels of observer coverage are far below NMFS's goal of 20 percent observer coverage to achieve reliable estimates of marine mammal take. The

Service should update its data for observer reports to the present and note that the observer coverage is too low for reliable estimates for take.

*Response:* We state that southern sea otter mortalities resulting from entanglement in gill nets are likely to be at or near zero because of the depth restrictions that are in place and the current extent of the southern sea otter's range. However, we acknowledge that individual sea otters may occasionally transit areas that are not subject to closures and that levels of observer coverage of gill and trammel net fisheries that may interact with sea otters are low (for those fisheries that are observed at all). We have added the statement that levels of observer coverage of gill and trammel net fisheries are insufficient to confirm an annual incidental mortality and serious injury rate of zero in these fisheries. We have updated the SAR to include the most recent information currently available on observer coverage (through 2012).

*Comment 2:* The SAR should estimate disease mortalities and report them. Studies have linked the diseased sea otters with *Toxoplasma*, which is likely a result of cat feces in land-based freshwater runoff.

*Response:* We have added an estimate of mortality due to microcystin intoxication to our discussion of non-fishery-related anthropogenic mortality in the SAR. We discuss protozoal encephalitis, including that caused by *Toxoplasma gondii*, in this same section of the SAR ("Other Mortality"), but we do not include an estimate of the deaths caused by *T. gondii* in our estimate of annual anthropogenic mortality due to non-fishery-related causes because the anthropogenic contribution to these disease levels in sea otters is not sufficiently understood.

*Comment 3:* The habitat section should also include information about ocean acidification threats to habitat and prey of the southern sea otter. Sea otters consume calcifying

organisms that are at risk from ocean acidification. Coastal waters of California are among the most vulnerable to ocean acidification. Survey observations reported that during the upwelling season California's coast is already being exposed to corrosive waters. This can have a detrimental effect on marine habitats, by reducing growth, calcification, survival, and reproduction of many marine organisms. Ocean acidification has been definitively linked to massive oyster die-offs in Oregon.

*Response:* We have added information about the potential threat to sea otters posed by ocean acidification to the "Habitat Issues" section of the SAR.

*Comment 4:* The threat of entanglement in marine debris, derelict fishing gear, and plastic should be discussed in the habitat section.

*Response:* We list the number of known sea otter entanglements in marine debris and fishing gear under the heading "Human-Caused Mortality and Serious Injury." Therefore, we have not added a discussion of these threats to the "Habitat Issues" section of the SAR.

*Comment 5:* The SAR should be updated with the current status of progress on ending the no otter zone.

*Response:* We have updated the SAR to indicate that the translocation program and its respective translocation and management zones were terminated by a rulemaking published on December 19, 2012 (77 FR 75266).

### **Additional References Cited**

Kroeker, K. J., R.L. Kordas, R. N. Crim, and G.G. Singh. 2010. Meta-analysis reveals negative

yet variable effects of ocean acidification on marine organisms. *Ecology Letters* 13:1419–1434.

Kurihara, H., T. Asai, S. Kato, and A. Ishimatsu. 2008. Effects of elevated pCO<sub>2</sub> on early development in the mussel *Mytilus galloprovincialis*. *Aquatic Biology* 4:225-233.

Monson, D.H., J.A. Estes, J.L. Bodkin, and D.B. Siniff. 2000. Life history plasticity and population regulation in sea otters. *Oikos* 90:457-468.

Stumpp, M., J. Wren, Frank Melzner, M. C. Thorndyke, and S. T. Dupont. 2011. CO<sub>2</sub> induced seawater acidification impacts sea urchin larval development I: Elevated metabolic rates decrease scope for growth and induce developmental delay. *Comparative Biochemistry and Physiology, Part A: Molecular & Integrative Physiology* 160(3):331-340.

**Authority**

The authority for this action is the Marine Mammal Protection Act of 1972, as amended (16 U.S.C. 1361 et seq.).

Dated: January 8, 2014

Signed: Stephen Guertin

Acting Director, Fish and Wildlife Service.

~~(ACTION: Notice of availability of final revised marine mammal stock assessment reports for southern sea otter in California; response to comments.)~~

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